

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-104. (Canceled)

105. (New) A method for delivering a compound into a cell in vitro or in vivo, comprising:
administering to the cell a composition, the composition comprising said compound to be delivered and an organic halide to form a mixture, wherein the mixture does not comprise a liposome; and
applying ultrasound to said mixture sufficient to induce uptake of said compound into said cell.

106. (New) The method of claim 105 wherein said compound to be delivered is an exogenous nucleic acid sequence.

107. (New) The method of claim 106 wherein said organic halide is selected from the group consisting of 1-bromo-nonafluorobutane; perfluorooctyl iodide; perfluorooctyl bromide; 1-chloro-1-fluoro-1-bromomethane; 1,1,1-trichloro-2,2,2-trifluoroethane; 1,2-dichloro-2,2-difluoroethane; 1,1-dichloro-1,2-difluoroethane; 1,2-dichloro-1,1,3-trifluoropropane; 1-bromoperfluorobutane; 1-bromo-2,4-difluorobenzene; 2-iodo-1,1,1-trifluoroethane; 5-bromovaleryl chloride; 1,3-dichlorotetrafluoroacetone; bromine

pentafluoride; 1-bromo-1,1,2,3,3,3-hexafluoropropane; 2-chloro 1,1,1,4,4,4-hexafluoro-2-butene; 2-chloropentafluoro-1, 3-butadiene; iodotrifluoroethylene; 1,1,2-trifluoro-2-chloroethane; 1,2-difluorochloroethane; 1,1-difluoro-2-chloroethane; 1,1-dichlorofluoroethane; heptafluoro-2-iodopropane; bromotrifluoroethane; chlorotrifluoromethane; dichlorodifluoromethane; dibromofluoromethane; chloropentafluoroethane; bromochlorodifluoromethane; dichloro-1,1,2,2-tetrafluoroethane; 1,1,1,3,3-pentafluoropentane; perfluorotributylamine; perfluorotripropylamine; 3-fluorobenzaldehyde; 2-fluoro-5-nitrotoluene; 3-fluorostyrene; 3,5-difluoroaniline; 2,2,2-trifluoroethylacrylate; 3-(trifluoromethoxy)-acetophenone; 1,1,2,2,3,3,4,4-octafluorobutane; 1,1,1,3,3-pentafluorobutane; 1-fluorobutane; 1,1,2,2,3,3,4,4-octafluorobutane; 1,1,1,3,3-pentafluorobutane; perfluoro-4 methylquinolizidine; perfluoro-N-methyl-decahydroquinone; perfluoro-N-methyl-decahydroisoquinone; perfluoro-N-cyclohexyl-pyrrolidine; tetradecaperfluoroheptane; dodecaperfluorocyclohexane; perfluoromethane; perfluoroethane; perfluoropropane; perfluorobutane; perfluoropentane; perfluorohexane; perfluoroheptane; perfluorooctane; perfluorononane; perfluorodecane; perfluorododecane; perfluoro-2-methyl-2-pentene; perfluorocyclohexane; perfluorodecalin; perfluorododecalin; perfluoropropylene; perfluorocyclobutane; perfluoro-2-butyne; perfluoro-2-butene; perfluorobuta-1,3-diene; perfluorobutylethyl ether; bis(perfluoroisopropyl) ether; bis(perfluoropropyl) ether; perfluorotetrahydropyran; perfluoromethyl tetrahydrofuran; perfluoro t-butyl methyl ether; perfluoro isobutyl methyl ether; perfluoro n-butyl methyl ether; perfluoro isopropyl ethyl ether; perfluoro n-propyl ethyl ether; perfluoro cyclobutyl methyl ether; perfluoro cyclopropyl ethyl ether; perfluoro isopropyl methyl ether; perfluoro n-propyl methyl ether;

perfluoro diethyl ether; perfluoro cyclopropyl methyl ether; perfluoro methyl ethyl ether;
perfluoro dimethyl ether; sulfur hexafluoride; and selenium hexafluoride.

108. (New) The method of claim 105 wherein said administering step is conducted concurrently with said applying step.

109. (New) The method of claim 105 wherein said applying step is conducted prior to said administering step.

110. (New) The method of claim 105 wherein said organic halide is selected from the group consisting of 1-bromo-nonafluorobutane; perfluorooctyl iodide; perfluorooctyl bromide; 1-chloro-1-fluoro-1-bromomethane; 1,1,1-trichloro-2,2,2-trifluoroethane; 1,2-dichloro-2,2-difluoroethane; 1,1-dichloro-1,2-difluoroethane; 1,2-dichloro-1,1,3-trifluoropropane; 1-bromoperfluorobutane; 1-bromo-2,4-difluorobenzene; 2-iodo-1,1,1-trifluoroethane; 5-bromovaleryl chloride; 1,3-dichlorotetrafluoroacetone; bromine pentafluoride; 1-bromo-1,1,2,3,3,3-hexafluoropropane; 2-chloro 1,1,1,4,4,4-hexafluoro-2-butene; 2-chloropentafluoro-1,3-butadiene; iodotrifluoroethylene; 1,1,2-trifluoro-2-chloroethane; 1,2-difluorochloroethane; 1,1-difluoro-2-chloroethane; 1,1-dichlorofluoroethane; heptafluoro-2-iodopropane; bromotrifluoroethane; chlorotrifluoromethane; dichlorodifluoromethane; dibromofluoromethane; chloropentafluoroethane; bromochlorodifluoromethane; dichloro-1,1,2,2-tetrafluoroethane; 1,1,1,3,3-pentafluoropentane; perfluorotributylamine; perfluorotripropylamine; 3-fluorobenzaldehyde; 2-fluoro-5-nitrotoluene;

3-fluorostyrene; 3,5-difluoroaniline; 2,2,2-trifluoroethylacrylate;
3-(trifluoromethoxy)-acetophenone; 1,1,2,2,3,3,4,4-octafluorobutane;
1,1,1,3,3-pentafluorobutane; 1-fluorobutane; 1,1,2,2,3,3,4,4-octafluorobutane; 1,1,1,3,3-
pentafluorobutane; perfluoro-4 methylquinolizidine; perfluoro-N-methyl-decahydroquinone;
perfluoro-N-methyl-decahydroisoquinone; perfluoro-N-cyclohexyl-pyrrolidine;
tetradecaperfluoroheptane; dodecaperfluorocyclohexane; perfluoromethane; perfluoroethane;
perfluoropropane; perfluorobutane; perfluoropentane; perfluorohexane; perfluoroheptane;
perfluorooctane; perfluorononane; perfluorodecane; perfluorododecane;
perfluoro-2-methyl-2-pentene; perfluorocyclohexane; perfluorodecalin; perfluorododecalin;
perfluoropropylene; perfluorocyclobutane; perfluoro-2-butyne; perfluoro-2-butene;
perfluorobuta-1,3-diene; perfluorobutylethyl ether; bis(perfluoroisopropyl) ether;
bis(perfluoropropyl) ether; perfluorotetrahydropyran; perfluoromethyl tetrahydrofuran; perfluoro
t-butyl methyl ether; perfluoro isobutyl methyl ether; perfluoro n-butyl methyl ether; perfluoro
isopropyl ethyl ether; perfluoro n-propyl ethyl ether; perfluoro cyclobutyl methyl ether; perfluoro
cyclopropyl ethyl ether; perfluoro isopropyl methyl ether; perfluoro n-propyl methyl ether;
perfluoro diethyl ether; perfluoro cyclopropyl methyl ether; perfluoro methyl ethyl ether;
perfluoro dimethyl ether; sulfur hexafluoride; and selenium hexafluoride.

111. (New) The method of claim 110 wherein said administering step is conducted concurrently with said applying step.

112. (New) The method of claim 110 wherein said applying step is conducted prior to

said administering step.

113. (New) The method of claim 105 wherein said compound to be delivered is selected from the group consisting of mitotic inhibitors, a vinca alkaloid, radiopharmaceutical, radioactive iodine, phosphorus isotopes, cobalt isotopes, hormones, progestins, estrogens, antiestrogens, antihelminthics, antimalarials, antituberculosis, immune sera, antitoxins, antivenins, rabies prophylaxis products, bacterial vaccines, viral vaccines, aminoglycosides, respiratory products, xanthine derivatives, theophylline, aminophylline, thyroid therapeutics, iodine salts, anti-thyroid agents, cardiovascular products, chelating agents, mercurial diuretics, cardiac glycosides, glucagons, blood products, parenteral iron, hemin, hematoporphyrins, targeting ligands, peptides, antibodies, antibody fragments, biological response modifiers, muramyl dipeptide, muramyl tripeptide, microbial cell wall components, lymphokines, bacterial endotoxin, lipopolysaccharide, macrophage activation factor, subunits of bacteria, the synthetic dipeptide N-acetyl-muramyl-L-alanyl-D-isoglutamine, antifungal agents, ketoconazole, nystatin, griseofulvin, flucytosine (5-fc), miconazole, amphotericin B, toxins, ricin, immunosuppressants, cyclosporins, antibiotics, b-lactam, sulfazecin, hormones, growth hormone, melanocyte stimulating hormone, estradiol, beclomethasone dipropionate, betamethasone, betamethasone acetate, betamethasone sodium phosphate, betamethasone disodium phosphate, betamethasone sodium phosphate, cortisone acetate, dexamethasone, dexamethasone acetate, dexamethasone sodium phosphate, flunisolide, hydrocortisone, hydrocortisone acetate, hydrocortisone cypionate, hydrocortisone sodium phosphate, hydrocortisone sodium succinate, methylprednisolone, methylprednisolone acetate, methylprednisolone sodium succinate, paramethasone acetate, prednisolone,

prednisolone acetate, prednisolone sodium phosphate, prednisolone tebutate, prednisone, triamcinolone, triamcinolone acetonide, triamcinolone diacetate, triamcinolone hexacetonide, fludrocortisone acetate, oxytocin, vasopressin, vitamins, cyanocobalamin neionic acid, retinoids, retinol palmitate, a-tocopherol, peptides, enzymes, manganese superoxide dismutase, alkaline phosphatase, anti-allergens, amlexanox, anticoagulation agents, phenprocoumon, heparin, tissue plasminogen activators (TPA), streptokinase, urokinase, circulatory drugs, propranolol, metabolic potentiators, glutathione, antibiotics, p-aminosalicylic acid, isoniazid, capreomycin sulfate cycloserine, ethambutol hydrochloride ethionamide, pyrazinamide, rifampin, streptomycin sulfate dapsone, chloramphenicol, neomycin, ceflacor, cefadroxil, cephalexin, cephradine erythromycin, clindamycin, lincomycin, amoxicillin, ampicillin, bacampicillin, carbenicillin, dicloxicillin, cyclacillin, picloxicillin, hetacillin, methicillin, nafcillin, oxacillin, penicillin (G and V), ticarcillin rifampin, tetracycline, antivirals, acyclovir, DDI, Foscarnet, zidovudine, ribavirin and vidarabine monohydrate, antianginals, diltiazem, nifedipine, verapamil, erythritol tetranitrate, isosorbide dinitrate, nitroglycerin (glyceryl trinitrate), pentaerythritol tetranitrate, antiinflammatories, diflusal, ibuprofen, indomethacin, meclofenamate, mefenamic acid, naproxen, oxyphenbutazone, phenylbutazone, piroxicam, sulindac, tolmetin, aspirin, salicylates, antiprotozoans, chloroquine, hydroxychloroquine, metranidazole, quinine meglumine antimonite, antirheumatics, penicillamine, narcotics, paregoric, opiates, codeine, heroin, methadone, morphine, opium, cardiac glycosides, deslanoside, digitoxin, digoxin, digitalin, digitalis, neuromuscular blockers, atracurium nesylate, gallamine triethiodide, hexaflorenium bromide, metrocurine iodide, pancurium bromide, succinylcholine chloride (suxamethonium chloride), tubocurarine chloride, vecuronium bromide, sedatives, amobarbital, amobarbital

sodium, aprobarbital, butabarbital sodium, chloral hydrate, ethchlorvynol, ethinamate, flurazepam hydrochloride, glutethimide, methotrimeprazine hydrochloride, methypylon, midazolam hydrochloride, paraldehyde, pentobarbital, pentobarbital sodium, secobarbital sodium, tulbutal, temazepam and trizolam, local anesthetics, bupivacaine hydrochloride, chloroprocaine hydrochloride, etidocaine hydrochloride, lidocaine hydrochloride, mepivacaine hydrochloride, procaine hydrochloride, tetracaine hydrochloride, general anaesthetics, droperidol, etamine hydrochloride, methohexital sodium, thiopental sodium, antineoplastic agents, methotrexate, fluorouracil, adriamycin, mitomycin, ansamitomycin, bleomycin, cystein arabinoside, arabinosyl adenine, mercaptopolylysine, vincristine, busulfan, chlorambucil, azidothymidine, melphalan, PAM, L-PAM, phenylalanine mustard, mercaptopurine, mitotane, procarbazine hydrochloride dactinomycin (actinomycin D), danorubicin hydrochloride, dosorubicin hydrochloride, taxol, plicamycin (mithramycin), aminoglutethimide, estramustine phosphate sodium, flutamide, leuprolide acetate, megestrol acetate, tamoxifen citrate, testolactone, trilostane, amsacrine (m-AMSA), asparaginase, etoposide (VP-16), interferon a-2a, interferon a -2b, teniposide (VM-26), vinblastine sulfate (VLB), vincristine sulfate, hydroxyurea, procarbaxine, dacarbazine and contrast agents.

114. (New) The method of claim 113 wherein said administering step is conducted concurrently with said applying step.

115. (New) The method of claim 113 wherein said applying step is conducted prior to said administering step.

116. (New) The method of claim 113 wherein said organic halide is selected from the group consisting of 1-bromo-nonafluorobutane; perfluorooctyl iodide; perfluorooctyl bromide; 1-chloro-1-fluoro-1-bromomethane; 1,1,1-trichloro-2,2,2-trifluoroethane; 1,2-dichloro-2,2-difluoroethane; 1,1-dichloro-1,2-difluoroethane; 1,2-dichloro-1,1,3-trifluoropropane; 1-bromoperfluorobutane; 1-bromo-2,4-difluorobenzene; 2-iodo-1,1,1-trifluoroethane; 5-bromovaleryl chloride; 1,3-dichlorotetrafluoroacetone; bromine pentafluoride; 1-bromo-1,1,2,3,3,3-hexafluoropropane; 2-chloro 1,1,1,4,4,4-hexafluoro-2-butene; 2-chloropentafluoro-1,3-butadiene; iodotrifluoroethylene; 1,1,2-trifluoro-2-chloroethane; 1,2-difluorochloroethane; 1,1-difluoro-2-chloroethane; 1,1-dichlorofluoroethane; heptafluoro-2-iodopropane; bromotrifluoroethane; chlorotrifluoromethane; dichlorodifluoromethane; dibromofluoromethane; chloropentafluoroethane; bromochlorodifluoromethane; dichloro-1,1,2,2-tetrafluoroethane; 1,1,1,3,3-pentafluoropentane; perfluorotributylamine; perfluorotripropylamine; 3-fluorobenzaldehyde; 2-fluoro-5-nitrotoluene; 3-fluorostyrene; 3,5-difluoroaniline; 2,2,2-trifluoroethylacrylate; 3-(trifluoromethoxy)-acetophenone; 1,1,2,2,3,3,4,4-octafluorobutane; 1,1,1,3,3-pentafluorobutane; 1-fluorobutane; 1,1,2,2,3,3,4,4-octafluorobutane; 1,1,1,3,3-pentafluorobutane; perfluoro-4-methylquinolizidine; perfluoro-N-methyl-decahydroquinone; perfluoro-N-methyl-decahydroisoquinone; perfluoro-N-cyclohexyl-pyrrolidine; tetradecafluoroheptane; dodecafluorocyclohexane; perfluoromethane; perfluoroethane; perfluoropropane; perfluorobutane; perfluoropentane; perfluorohexane; perfluoroheptane; perfluorooctane; perfluorononane; perfluorodecane; perfluorododecane;

perfluoro-2-methyl-2-pentene; perfluorocyclohexane; perfluorodecalin; perfluorododecalin;
perfluoropropylene; perfluorocyclobutane; perfluoro-2-butyne; perfluoro-2-butene;
perfluorobuta-1,3-diene; perfluorobutylethyl ether; bis(perfluoroisopropyl) ether;
bis(perfluoropropyl) ether; perfluorotetrahydropyran; perfluoromethyl tetrahydrofuran; perfluoro
t-butyl methyl ether; perfluoro isobutyl methyl ether; perfluoro n-butyl methyl ether; perfluoro
isopropyl ethyl ether; perfluoro n-propyl ethyl ether; perfluoro cyclobutyl methyl ether; perfluoro
cyclopropyl ethyl ether; perfluoro isopropyl methyl ether; perfluoro n-propyl methyl ether;
perfluoro diethyl ether; perfluoro cyclopropyl methyl ether; perfluoro methyl ethyl ether;
perfluoro dimethyl ether; sulfur hexafluoride; and selenium hexafluoride.

117. (New) The method of claim 1161 wherein said administering step is conducted concurrently with said applying step.

118. (New) The method of claim 116 wherein said applying step is conducted prior to said administering step.

119. (New) A method for delivering a compound into a cell in vitro or in vivo, comprising

administering to the cell a composition, the composition comprising said compound to be delivered and an organic halide; and

applying ultrasound to said cell at 200-500 milliwatts per cm².

120. (New) The method of claim 119 wherein said compound to be delivered is selected from the group consisting of mitotic inhibitors, a vinca alkaloid, radiopharmaceutical, radioactive iodine, phosphorus isotopes, cobalt isotopes, hormones, progestins, estrogens, antiestrogens, antihelminthics, antimalarials, antituberculosis, immune sera, antitoxins, antivenins, rabies prophylaxis products, bacterial vaccines, viral vaccines, aminoglycosides, respiratory products, xanthine derivatives, theophylline, aminophylline, thyroid therapeutics, iodine salts, anti-thyroid agents, cardiovascular products, chelating agents, mercurial diuretics, cardiac glycosides, glucagons, blood products, parenteral iron, hemin, hematoporphyrins, targeting ligands, peptides, antibodies, antibody fragments, biological response modifiers, muramyl dipeptide, muramyl tripeptide, microbial cell wall components, lymphokines, bacterial endotoxin, lipopolysaccharide, macrophage activation factor, subunits of bacteria, the synthetic dipeptide N-acetyl-muramyl-L-alanyl-D-isoglutamine, antifungal agents, ketoconazole, nystatin, griseofulvin, flucytosine (5-fc), miconazole, amphotericin B, toxins, ricin, immunosuppressants, cyclosporins, antibiotics, b-lactam, sulfazecin, hormones, growth hormone, melanocyte stimulating hormone, estradiol, beclomethasone dipropionate, betamethasone, betamethasone acetate, betamethasone sodium phosphate, betamethasone disodium phosphate, betamethasone sodium phosphate, cortisone acetate, dexamethasone, dexamethasone acetate, dexamethasone sodium phosphate, flunisolide, hydrocortisone, hydrocortisone acetate, hydrocortisone cypionate, hydrocortisone sodium phosphate, hydrocortisone sodium succinate, methylprednisolone, methylprednisolone acetate, methylprednisolone sodium succinate, paramethasone acetate, prednisolone, prednisolone acetate, prednisolone sodium phosphate, prednisolone tebutate, prednisone, triamcinolone, triamcinolone acetonide, triamcinolone diacetate, triamcinolone

hexacetone, fludrocortisone acetate, oxytocin, vasopressin, vitamins, cyanocobalamin neionic acid, retinoids, retinol palmitate, a-tocopherol, peptides, enzymes, manganese superoxide dismutase, alkaline phosphatase, anti-allergens, amlexanox, anticoagulation agents, phenprocoumon, heparin, tissue plasminogen activators (TPA), streptokinase, urokinase, circulatory drugs, propranolol, metabolic potentiators, glutathione, antibiotics, p-aminosalicylic acid, isoniazid, capreomycin sulfate cycloserine, ethambutol hydrochloride ethionamide, pyrazinamide, rifampin, streptomycin sulfate dapson, chloramphenicol, neomycin, ceflaxor, cefadroxil, cephalexin, cephadrine erythromycin, clindamycin, lincomycin, amoxicillin, ampicillin, bacampicillin, carbenicillin, dicloxacillin, cyclacillin, picloxacillin, hetacillin, methicillin, nafcillin, oxacillin, penicillin (G and V), ticarcillin rifampin, tetracycline, antivirals, acyclovir, DDI, Foscarnet, zidovudine, ribavirin and vidarabine monohydrate, antianginals, diltiazem, nifedipine, verapamil, erythritol tetranitrate, isosorbide dinitrate, nitroglycerin (glyceryl trinitrate), pentaerythritol tetranitrate, antiinflammatories, diflusal, ibuprofen, indomethacin, meclofenamate, mefenamic acid, naproxen, oxyphenbutazone, phenylbutazone, piroxicam, sulindac, tolmetin, aspirin, salicylates, antiprotozoans, chloroquine, hydroxychloroquine, metranidazole, quinine meglumine antimonite, antirheumatics, penicillamine, narcotics, paregoric, opiates, codeine, heroin, methadone, morphine, opium, cardiac glycosides, deslanoside, digitoxin, digoxin, digitalin, digitalis, neuromuscular blockers, atracurium nesylate, gallamine triethiodide, hexaflorenium bromide, metocurine iodide, pancurium bromide, succinylcholine chloride (suxamethonium chloride), tubocurarine chloride, vecuronium bromide, sedatives, amobarbital, amobarbital sodium, aprobarbital, butabarbital sodium, chloral hydrate, ethchlorvynol, ethinamate, flurazepam hydrochloride, glutethimide,

methotrimeprazine hydrochloride, methypylon, midazolam hydrochloride, paraldehyde, pentobarbital, pentobarbital sodium, secobarbital sodium, tulbutal, temazepam and trizolam, local anesthetics, bupivacaine hydrochloride, chloroprocaine hydrochloride, etidocaine hydrochloride, lidocaine hydrochloride, mepivacaine hydrochloride, procaine hydrochloride, tetracaine hydrochloride, general anaesthetics, droperidol, etamine hydrochloride, methohexital sodium, thiopental sodium, antineoplastic agents, methotrexate, fluorouracil, adriamycin, mitomycin, ansamitomycin, bleomycin, cystein arabinoside, arabinosyl adenine, mercaptopolylysine, vincristine, busulfan, chlorambucil, azidothymidine, melphalan, PAM, L-PAM, phenylalanine mustard, mercaptopurine, mitotane, procarbazine hydrochloride dactinomycin (actinomycin D), danorubicin hydrochloride, dosorubicin hydrochloride, taxol, plicamycin (mithramycin), aminoglutethimide, estramustine phosphate sodium, flutamide, leuprolide acetate, megestrol acetate, tamoxifen citrate, testolactone, trilostane, amsacrine (m-AMSA), asparaginase, etoposide (VP-16), interferon a-2a, interferon a -2b, teniposide (VM-26), vinblastine sulfate (VLB), vincristine sulfate, hydroxyurea, procarbaxine, dacarbazine and contrast agents.